IT HAPPENS EVERY SPRING
IN SOME BIG AMERICAN CITY.
THIS YEAR IT'S PITTSBURGH.

OVER 17 HUNDRED STUDENTS
FROM AROUND THE WORLD
ARE HERE.....TO COMPETE

IN THE INTEL INTERNATIONAL
SCIENCE AND ENGINEERING FAIR.

IT WASN’T ALWAYS THIS BIG.

THE FIRST SCIENCE FAIR WAS IN
NEW YORK CITY IN 1928,
AT THE AMERICAN
MUSEUM OF NATURAL
HISTORY.
MOST OF THE STUDENT’S PROJECTS WERE
SIMPLE DEMONSTRATIONS OF
SCIENTIFIC PRINCIPLES.

BY 1950 THE IDEA HAD GROWN
INTO A NATIONAL COMPETITION
TO IDENTIFY AMERICA’S TOP YOUNG
SCIENTISTS.

AT TODAY’S AWARDS CEREMONY
THEY’RE HANDING OUT MORE
THAN 5 MILLION DOLLARS IN
SCHOLARSHIPS AND PRIZES.

ALL OF THE FINALISTS COMPETING
HERE STARTED BACK HOME AT THEIR
LOCAL SCIENCE FAIR, AND THEN WON THEIR
STATE OR REGIONAL COMPETITION.

THEY ARE THE BEST OF THE BEST.
Arkansas scene

THREE OF THEM ARE FROM SCHOOLS IN NORTHWEST ARKANSAS, MY HOME STATE.

Nats sound “You gotta earn it....”

Mark Welch in class

THESE SCHOOLS TAKE SCIENCE FAIR VERY SERIOUSLY.

Nats—“What we’re going to show you here, Is the pathway of the steps that will enable you to put yourself in the position to be successful, and possibly go there.”

David Good’s class

AT MY SCHOOL, WE HAVE TO DO A SCIENCE FAIR PROJECT—IT’S PART OF OUR GRADE.

Nats—“How many of you would do a SF project if we didn’t require it?”

Montage of students working

WE’RE NOT ALL CRAZY ABOUT IT, IT’S A LOT OF WORK, FOR EVERYONE. BUT, OUR TEACHERS BELIEVE IT’S IMPORTANT. LIKE IT OR NOT, AT MY SCHOOL WE DON’T JUST TALK ABOUT SCIENCE, WE DO IT.

Title animation

(Fade to black) (Music fades)

Alpena School bus

(day begins)

THE THREE SCHOOLS IN THIS STORY ARE DIFFERENT IN MANY WAYS, BUT THEY HAVE ONE THING IN COMMON: THEY ARE FIERCE COMPETITORS IN SCIENCE FAIR.

ONE OF THEM IS HERE, WHERE I’M A STUDENT— AT ALPENA HIGH SCHOOL.
WE HAVE ABOUT 200 STUDENTS IN GRADES SEVEN THROUGH TWELVE.

AND THE HIGH SCHOOL SITS RIGHT NEXT TO THE MIDDLE AND THE ELEMENTARY SCHOOLS.

MANY OF THE STUDENTS LIVE ON FARMS IN THE RURAL AREAS OUTSIDE OF TOWN.

WE ALL KNOW EACH OTHER.

MOST OF US HAVE DONE A SCIENCE FAIR PROJECT EVERY YEAR SINCE THE FIFTH GRADE.

THERE’S A HALLWAY COVERED WITH PLAQUES AND AWARDS THAT SERVES AS A DAILY REMINDER OF ALPENA’S TRADITION IN SCIENCE FAIR COMPETITION.

Nats—“We’ve been referred to as the hicks-from-the-sticks in the past, cause we’re the little school. But we’re the little school with a big bark, and a big bite, when it comes to science fair. And it makes the people proud of the community.”

(Mark Welch)
in: I know there are people that drive through
in: and they have to think, how in the world do these kids from this little wide-spot-in-the-road do what they do?
Mark in class

Nats—“You know that a lot of kids, evidence in the hallway, have had a lot of success with this. And you in your mind probably wonder, how did they do that?”

MR. WELCH IS THE TEACHER WHO BROUGHT SCIENCE FAIR TO ALPENA EIGHTEEN YEARS AGO. HE GETS US THINKING ABOUT IT THE FIRST WEEK OF SCHOOL.

Mark Welch

Teacher (super)

Schedule

in: You can’t eat this steak all in one bite. You’ve got to cut it up into little pieces or the children will be overwhelmed. So what we do is we basically break it into several components throughout the year, so they can hit benchmarks in: at the right time.

Mark cu

Nats—“Do you remember what your job is? What is that? To make your grades. This is a part of making that grade.”

Students

HE ALSO GIVES US A LITTLE EXTRA MOTIVATION.

Mark cu

Nats—“So if your job is to make grades because that is important, can that calculate out into money sometime?

WS class

Nats—“Since 2001, since those first two girls went to ISEF, I can tell you how many students have earned academic full scholarships to Division I universities from our school, and the number is 18.

Nats—“Can you name any Alpena student who has gone on a Division I scholarship for playing any kind of sport? Can you name one? Exactly....”
NO, THESE AREN’T THE ALPENA LEOARDS. WE DON’T HAVE ENOUGH STUDENTS TO FIELD A FOOTBALL TEAM. THESE ARE THE AIREDALES, FROM ALMA, ARKANSAS.

I’M NOT SURE HOW THEY DO IN FOOTBALL, BUT I KNOW THEY ROCK IN SCIENCE FAIR.

THEY HAVE AROUND A THOUSAND STUDENTS. AND LIKE ALPENA, MOST OF THEIR SCIENCE CLASSES REQUIRE A SCIENCE FAIR PROJECT.

“They have a Pep Talk at the beginning of the year.”

Nats—“Have we had someone from Alma go to Internationals before? Yes. Can it happen? Yes, it can.”

Nats—“It’s a great opportunity for you, and I don’t want you to go into it thinking, ‘Oh, my gosh, why do I have to do this?’ I want you to think this is a worthwhile...yes, it’s a lot of work, I’m not going to lie to you. Yes, I have high expectations. I expect you to do really well. Yes, I’m competitive, And I hope you’re competitive, too.”

TS Nats 1

Nats—“So how many of you have your topic already? Raise your hand if you know what you are doing for science fair.”

TS Nats 2

In: Coming up with an idea is very difficult. These students don’t have a lot of experience with research, with scientific research, experiments. They don’t have a
TS w student

Nats—“Is there any certain category, that you like to do? Uh, sports. You like sports.”  (:06)  TRT: 6:32

TS w student

In: So we try to come up with something together. Something that they will find valuable and fun, and will get them hooked, because I want them to love science fair, and love science and research. (TS_1b)

Nats—“Yeah, that’s fine. Does that sound good? Sound fun? Okay.”

Students at computers

I GUARANTEE YOU, BY THE TIME THE REGIONAL SCIENCE FAIR ROLLS AROUND, THESE GUYS FROM ALMA WILL BE READY. (:08)

Haas Hall exterior

And then there is one other school that has recently become a serious contender at the Regional Science Fair.

SOMEONE TOLD ME THEY WERE RANKED AS THE NUMBER ONE HIGH SCHOOL IN THE STATE.

(KM voice)

In: Haas Hall Academy is a public charter school in Fayetteville, Arkansas. We have 320 scholars, eight through twelve. (:10) KM_1a

Kids into school

In: When you first walk in, you'll usually see a banner that says, “Expect to learn.” And so right away
In: they’re shown that we are all about learning. (:{11}) KM_1d

Kelly Margoulis SOT
(w super)

In: Science Fair. You’re finding schools that don’t want to put in the effort and the time to do it. It’s falling by the wayside. We here at Haas Hall, because we’re known as a math and science school, decided that this was something that we really wanted to focus on, and that was important. (:{18}) KM_2a1

8th Grade class

Nats—“How are you coming with your three topics in science fair?”

Girl responds

“I came up with my ideas because I just thought about things that really matter to me, and do things that could help.”

KM replies

“I love that you said that, Natalie. Science Fair is not just that we can do this experiment, but why are we doing it?”

class listens

In: We require it in 8th grade and then we also decided to require it in our biology class. (:{07}) KM_2a2

KM with 10th grade class

Nats—“Most of you rocked out your bibliography, which always makes me very happy.”

In: It’s a lot of critical thinking, applied learning, not just book smarts.

KM

Nats—“Okay, so as it stands now, if I wrote on your paper, ‘Come talk to me, I don’t understand what you’re doing,’ you’re not ready to start.”

KM SOT

In: You have to go into the literature. You have to see what other people are doing, so you can compare your results to what someone else did. (:{35})
Nats—“If you’re doing something on human behavior, you could do the psychology journal.”

In: And through that whole process I try walk them through this and tell them this is not busy work, this is not something I have you do because I can—this is what real scientists do.

Nats—“We’re still in the preliminary stages, but you understand the expectations.”

(:04) (KM_Expectations nats)

THE EXPECTATIONS ARE THE SAME FOR ALL OF US.

IT’S TIME TO WRITE THE RESEARCH PLAN.... WHICH WILL INCLUDE:

THE PURPOSE OF YOUR EXPERIMENT,

A LIST OF THE MATERIALS YOU NEED,

AND A DETAILED DESCRIPTION OF HOW YOU WILL CONDUCT THE EXPERIMENT. (:30)

That’s when they find out is this doable, is this possible? (KM_2b1)

(:07)

Is this realistic? Because sometimes they really want to do exciting things, but we may not have the equipment or the expertise to do that. (KM-2b2)

(:10)

I like to think of the experimentation phase of the process as a tunnel. (MW_tunnel 1) (:04)
Mark SOT

In: What you usually see is, the students, they will stall as long as they can before they will go into the tunnel, where you actually start experimenting. You actually, sometimes, have to shove them in there. (MW_tunnel 2)

Student experiments

SO, HERE WE ARE IN THE TUNNEL.

MR. WELCH IS RIGHT. IT DOES FEEL LIKE YOU’RE IN THE DARK WHEN YOU START YOUR EXPERIMENT.

LET’S MEET SOME OF THESE BRAVE SCIENCE FAIR EXPLORERS.

Javian cover

In: My name is Javian Walter and (Javian 1)
I’m in the 9th grade. This is my first year of doing science fair, ever.

In: I’ve always been interested in (Javian 2) radiation because it’s a little bit dangerous.

Javian SOT

(name super)

In: I watched a video online about a Boy Scout who actually built his own Geiger counter, and I thought—I could do that. (Javian 3)

(Javian 18)

Javian testing

In: I’m concerned about the radiation that comes from electronic devices, because people don’t typically think about that a microwave could be dangerous, but it is a level of radiation. Radiation is just a high-end frequency wave on the electromagnetic spectrum, and microwaves provide that. So do cell phones, so do computers, and I’m concerned about that. They could hurt people. (Javian 4)

(:10)
In: The reading that’s given from the meter, from the meter that I made, is so minute that it’s barely measurable.

In: So for that reason, I’m going to need an actual, scientifically made, Geiger counter.

KM SOT
In: Even though we already have Geiger counters, he was trying to create one with what he had available to him.

Javian w real meter
This is how discovery starts.

Testing plate
In: When he told me he found a radioactive plate, I got a little nervous....

Nats—“Oh, wow! Now that is powerful.....

Taylor testing
In: Taylor
In: She likes microbiology projects
In: She’s testing
KM SOT
In: gloves, to see if different substances would break down gloves.

Taylor testing
In: Because everyone thinks they’re so sanitary.

Taylor SOT
(name super)
In: All the doctors go through and always get the Germ-x right before they wash their hands and then they put the gloves on. Well if that doesn’t dry completely, it can deteriorate the glove.

Taylor testing
In: And so I just had a surgery
In: and so it relates back to me a lot.
In: We’re going to take 3 different gloves—a powder glove, a latex glove, and a non-latex glove
Taylor testing

In: and take anti-bacterial soap, Germ-x, and then just the regular like “Dawn” just soap

In: and we are going to pour a little bit in each.

In: See if it like deteriorates or lets anything through, where there’s bacteria. (:55)

Mark and Bethany go downstairs

(Bethany voice)

In: Last year after seeing some of my friends get to go to nationals, I went to Mr. Welch and I said, “I want to be able to do that. I want a project that will get me there.”

(B1)

In: We came across a study that had been done with feeding rats blueberries, (B2)

In: There’s a component in blueberries that is supposed to work with vitamin D to increase the immune system’s responses. (B3)

Opens chicken cages

In: and we thought, “How could we take this and expand on it and make it different?”

With chickens, it has a very real-world application, because chickens, in their poultry houses, undergo a lot of stress. (B2)

Bethany talking to Welch

(Bethany)

Nats—“I came down and I had a panic attack, because I was like down here by myself and I didn’t feel like I could do anything with them. (Welch) You were overwhelmed. Yes. Okay. Alright.

Bethany SOT

(Name super)

In: To all of a sudden be responsible For 25 chickens is very eye-opening....(B4)
Welch talks to her

Nats—“You’re in the last part, and the most labor-intensive part, if you can push through this, and I think you can. You seem more cheerful today.” (B Nats 2)

Welch continues

Nats—“You’re going to move these guys, one by one, and put them in those cages over there. Right, so we’re going to need more water. You’re going to need some assistance so I’ll send Levi down. Ok. And I may send some others down, too. Ok.” (B Nats 3)

Group of students to help

(Bethany)

In: We are all, in a way, competing against each other, but even more than that, we want to see our classmates succeed. (B6)

In: That’s the mindset a lot of us have. (B7)

Weighing chickens

Nats—“Ow, he pecked me!”

Chickens into cages

In: We moved 18 of the chickens to the individual batteries, made sure that each one had the same amount of food and water. (B9)

Nats—“Easy buddy. He’s quiet.”

In: There’s the control group (B10)

In: They’re getting just plain water and food. Then there’s the vitamin D group. (B11)

In: Then there is the blueberry/vitamin D group. (B12)

Feeding them

In: So I’ll be doing that for about a week. And see how much their eating changes, and how much the ammonia changes. (B13)
With chickens

In: Ammonia is what’s given off in chicken waste, and it’s what makes it smell. It’s also very detrimental to the chicken’s health. (B14)

Feeding them

In: It’s not very good for humans either. (B15)

In: And so finding a way to lower the ammonia levels in chicken houses is going to be better for chickens and better for the farmers. (B16)

Sophie measuring

(KM voice)

In: Sophie was looking at how does garbage decompose, in particular, she was looking at different types of paper.

(Sophie)

In: and I’m trying to see what will help decompose the paper quicker, (S3)

In: earthworms, organic waste, or just regular soil. (S4)

Sophie SOT

In: I had already been thinking about what could I do to make this different and better, and how could it better help society? (S5)

Landfill

Nats—Landfill (:06)

(KM voice)

In: Sophie decided, “I need to go see a landfill, I need to see how this is applied.” (S6)

Listening to guy

Nats—“But you can see over here, Sophie, this is our class 4 landfill.”

Sophie looking around

In: I learned how important they are, you know, everyone thinks they’re gross. I think they’re gross, but they’re important. (S8)
With landfill guy

Nats—“It’s like you cut your waste in half. Wow. And if everybody did that, that’d be amazing.”

In: It’s really expensive to build it, I mean, I just thought they dug a hole and that was your landfill.  (S10)

CU Sophie’s experiment

tilt up to Sophie

(Sophie)

In: So here we have under a few inches of soil a plastic tub, and it’s got soil, my paper samples, and this particular one has earthworms in it.

Digging

In: I’m going to dig it up.

Nats—“It’s not always fun.”

In: I’m going to take the tub out.

In: I’m going to go through and find the paper.

In: I’m going to let it sit overnight just to get some moisture out.

In: And then I’m going to weigh it.

(Sophie voice)

Pulling out a tub

In: These tubs are made of plastic. And when I went to the landfill, I found out that they have a thick plastic liner under them.

Sophie SOT

In: So in a way, this kind of represents a landfill. And we have a limited time left in our landfill, and so if we can try and find something that will help decompose the paper and trash quicker, then, that’d be great.  (S14)
In: Zane Hulsey, he’s doing a really interesting nematode study (Mark 1)
In: nematodes being a sentinel species for pollutants, and we deal with pollutants on the ground from chicken litter spreading. (Mark 2)

In: Mr. Welch hit me one time with the idea

In: and he asked me about doing a study in nematodes. I didn’t know what nematodes were. (Z1)

In: It’s basically a microscopic worm in the soil. (Z2)

In: He worked with me and basically came up with a mutual question, (Z3)
In: Does poultry litter have an effect on nematode population in fields? (Z4)

In: I was born and raised on a farm. We have four turkey houses and about fifty cows. (Z5)

In: We have a litter truck and it has a conveyor belt, it’s basically a big dump truck. And it’s got two rotating devices on the back that slings the litter, and it takes it on that conveyor belt and just drive around and it slings the litter out all over the land. (Z6)

In: Hillsides that have been littered are a whole lot greener than other hillsides that haven’t. (Z7)

In: Everybody’s always talking about, “Oh, poultry litter hurts the land...poultry litter does this, that.” I just really wanted to test and see if it did have an effect on the nematode population. (Z8)
Zane sampling

In: I selected two hillsides with a cross fence on them and half the hillside was littered and half of it wasn’t. I took samples on each side of the fence and compared the samples. (Z9)

UA Ag sign

In: It would be really cool if we could get in touch with a couple professors at the U of A. We emailed the professors back and forth and I went over there and got to work with them. (Z10)

Zane at U of A

Nats—“Just remember keep tapping and pouring at a uniform rate.”

In: It was amazing, all the equipment they had, and it was just mind-blowing the amount of knowledge everybody had. (Z10a)

In: We took all the samples over there and we screened them out and just had the nematodes in some water.

Nats—“That’s a lot of nematodes. Well, it’s really not very many.”

In: It was amazing, all the equipment they had, and it was just mind-blowing the amount of knowledge everybody had.

In: We looked under the microscope at a couple of samples, but I left the samples with Dr. Robbin and he evaluated them and sent the results back. (Z11)

Zane walks at farm

In: Whatever the results are (Z11a)

In: I don’t want to go spread waste and kill the environment in 20 years not have anything to feed cows. (Z11b)
Zane SOT

In: This data supported that nothing was harming the nematodes, so maybe we’re actually doing something good.  

Lucinda begins testing

(KM voice)

In: Lucinda...she did a science fair project last year and she did not win, and instead of that experience causing her to decide not to do it again, she was just even more motivated to do a science fair project.  

(KM_1)

In: I was asking Ms. Margoulik about what I should look at for my science fair project and she said look for what you’re interested in.  

Lucinda SOT

w super

And my nana has, for a long time, taught me how to sew, and I make my own dresses sometimes, and so I thought it’d be interesting to do something with fabric.

Lucinda testing

Nats—“Can you call out the colors, Mom?”

In: I am looking at the effect of fabric softener on the flammability of different fabric types. Basically seeing if what fabric softener you wash it in makes it more flammable or less flammable.  

(L_2)

In: I’m testing 3 different fabric softeners on 10 different fabrics.  

(L_2a)

Lucinda SOT

In: I think the fabrics with the fabric softener will burn much faster than the ones without it.  

(L_4)

Lighting the fabric

Nats—“One, two—one, two, three.”
Experiment

In: I have this thing I’ve constructed, I call it a “burning apparatus.” It’s basically some pieces of wood with a clothes pin on it, to hang the fabric from.

Nats—“One, two—one, two, three.”

In: After I’ve done with cooling I then will measure how much fabric is burned off. And then I’ll be able to compare how much fabric burns off in the same amount of time to see which one burns faster. (L_3)

Nats—“It definitely burned more than this one.”

Lucinda SOT

In: Going through the scientific process and being able to see it in action, as opposed to mark it down as answers on a test, I think is really interesting. Being able to....I knew how to compose an experiment, but to be able to compose it and do it....

Measuring sequence

In: There was no fabric softener that came out showing that it burnt more. There were definitely fabrics that burned more, but the control group that didn’t have any fabric softener on it didn’t burn less than the others.

Lucinda SOT

In: It was fun doing it and so....I got the data I got and I can’t change it... (L_6)

Frank w experiment

(TS Voice)

In: Frank is doing a very interesting project. He’s testing to see if electromagnetic radiation, or just regular magnetic radiation, affects algae cell growth, and he’s tying this into cancer cells, and how we might treat cancer in the future. (F_TS 1)
Frank SOT

In: Well my teacher first told me about the topic. She said she was interested in it. And so I thought about it, and I talked to my parents, because they usually help me come up with a project idea as well. And my mom loved the idea because she was born near like a power plant type thing, and when she was in her twenties she got a brain tumor, and she’s fine now but that just fascinated me 10 times more.

Frank with experiment

(F_1)

Demonstrating cu

In: The cells, we’re going to put cells in this water right here

In: We’re going to wrap this wire around this area. We’re going to turn it on and probably put it to 1.5 cause this wire can’t really hold too much electricity. And then we’re going to measure the cell growth.

(F_2)

Frank with experiment SOT

In: And most likely, nothing is going to come out of…..I mean this is a rag-tag setup right here, it’s not a professional lab experiment, so the data, most likely, is going to be normal, I mean the magnetic field is most likely not going to affect it, but we’ll see.....

(F_3)

(TS Voice)

Tiffany SOT

In: He has to count that algae, and he had to research that because I don’t know how to do that, I’m not a biologist.

Frank counting

(F_TS 2)

In: And he had to go in and research what instruments he needed, how to do those counts, what units to use.....

(F_4)

In: I needed a couple of things for my science fair project that my school didn’t have.
In: I did not have a hemocytometer,  
(F_5)

In: Those were like 50 to 100 dollars, but I found a good price for one.  
(F_6)

In: It has a grid pattern, really small, so when you look through a microscope the cells are on the grids and you have to count how many cells are in each grid.  
(F_7)

In: When I’m looking at it for that long, my eyes get tired, so it’s very hard to focus. And so I just take my phone....and I kind of have to like set it up perfectly. It takes me few minutes, and I just take a picture of the 4 by 4 grid.

In: And my phone actually focuses better than my eyes do, so.  
(F_8)

Frank SOT

In: When you do science fair, most of the students think you have to come up with some crazy, original, idea to move on, but that’s not true. Usually the judges will just measure the professional level of your project, if it’s done really, really well, then they like that. You don’t have to reinvent the wheel, or cure cancer, or anything like that. You have to do your project really well.  
(F_9)

Exterior UA building

In: And for those of you who are new to the science fair  
(Lynn 1)

In: there’s a lot to look at.  
(Lynn 2)

Inside meeting

THE STUDENTS AREN’T THE ONLY ONES WORKING HARD AT THIS STAGE.
OUR TEACHERS HAVE TO GO TO A MEETING AT THE UNIVERSITY OF ARKANSAS CONDUCTED BY DR. LYNN HEHR. SHE’S THE DIRECTOR OF THE REGIONAL SCIENCE FAIR. (:13)

Lynn talks

Nats—“One thing I dislike about science fair. You can write that down now, and I’ll bet I can guess…. it’s a four-letter word that starts with F….“ (Lynn 3)

Laughter reaction

SHE’S TALKING ABOUT FORMS….

CU forms

ALL THE PAPERS WE HAVE TO FILL OUT AND GET SIGNED BEFORE WE CAN EVEN BEGIN OUR EXPERIMENTS. (:09)

Meeting various

(TS voice)

IN: I would say that is one of the biggest downfalls to science fair that I hear from students is doing all the paperwork. It is so much, but it is necessary because you’ve got to have the legal end of it covered. (TS 1)

Meeting

(KM voice)

IN: It’s like a safety check. And it’s daunting because you need a lot of signatures. You’re going to have a supervisor. You’re going to have a designated scientist. Your parents have to sign off that this is what your project is all about.

Open House-Alpena
Exterior School (various)

Parent with Welch

Nats—“What about science fair?”

ALPENA PARENTS KNOW A LOT ABOUT THE DEMANDS OF SCIENCE FAIR.
AND AT THE PARENT-TEACHER CONFERENCES, MR. WELCH KNOWS HE’LL BE ANSWERING A LOT OF QUESTIONS ABOUT IT.

(MW voice)
IN: We do get some, “Why do they have to do this?”
IN: They don’t mind the process, they just wish it was not required of their child to do it.

Sheri McCue
Alpena Parent  SOT  IN: I think it’s a good program. but I think that it should not be mandatory. And it should not be such a huge grade in several classes.

Voneda Kellate
Alpena Parent  SOT  IN: When they start feeling that frustration level, she will just kind of back off, and quit putting as much effort into it as maybe she should. And then her grade starts to suffer because then, she’s not, her research suffers.

Denise Richardson
Alpena Parent  SOT  IN: I have a daughter that excelled in everything. Science Fair....she worked and worked and worked, and never placed, or anything. It was very upsetting for her, cause she felt like she failed.

Mark in class  Nats—“Have all of you at different times felt like, I put forth a really good effort and it didn’t pay off for me? Sure... but I’m telling you this—past performance is not indicative of future results.”

“And if you will attack the process with some enthusiasm, then you will see a result that is nice.”
“Your confidence is going to go up based on what you find in your experiment. Are there any bad numbers? No way.’

“Explaining the ‘why’ that’s the important part. So you can’t miss.”

<table>
<thead>
<tr>
<th>Textbooks</th>
<th>IN: Every science book that we have in the first chapter or two talks about the process of science.</th>
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</thead>
<tbody>
<tr>
<td>Mark SOT</td>
<td>IN: I don’t teach those chapters. I don’t have to, because the children are doing it.</td>
</tr>
<tr>
<td>Students</td>
<td>IN: Our ACT scores, through the roof since we’ve been doing this.</td>
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<td></td>
<td>IN: We went from below the state to above the national average on the ACT science reasoning part.</td>
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<tr>
<td>Roger Rose in class</td>
<td>Nats—“So you guys are scientists— you’re out there doing it.”</td>
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<td>MOST STUDENTS AT ALPENA DO THEIR FIRST SCIENCE FAIR PROJECT IN THE FIFTH GRADE.</td>
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<td>Roger w student</td>
<td>Nats—“If a tomato does better in the sunlight, like ripens better in the sunlight or in the darkness.”</td>
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<td>Nats—“What does ‘better’ mean? And how are you going to measure it?</td>
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<td>MR. ROSE IS THE MIDDLE SCHOOL’S TEACHER WHO GETS THE YOUNG ONES STARTED.</td>
</tr>
<tr>
<td>Roger Rose SOT w super</td>
<td>IN: Science Fair really adds a component to my classroom</td>
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that I couldn’t do without it, because I get to do individualized teaching with each student on something they are specifically interested in.

Roger with a student

Nats—“It may or may not, but we don’t know, right?”

Roger with students

IN: And what’s really fun is to watch them discover something that they didn’t think was going to happen. You know, the best projects, I think, are when their hypothesis is not supported by the data. Because I tell them, if you know what is going to happen before you do it, what’s the point of doing it?

IN: And immediately they start asking questions, you know, what if I did this, or what if I did that? And I say, Well that’s something for next year if you want to extend it.

Nats—“Good job, guys.”

Desiree and Lydia

MR. ROSE HAS SOME INTERESTING EXPERIMENTS GOING ON IN HIS CLASS THIS YEAR.

DESIREE AND LYDIA LOVE VOLLEYBALL.

THEY’RE WORKING ON A TEAM PROJECT ARE ON THE SCHOOL’S VOLLEYBALLS.

Desiree and Lydia

THEY’RE TESTING TO SEE IF CLEANING THE BALLS WITH A DISINFECTANT GETS RID OF THE BACTERIA.

Nats—“And by Friday, you should have some results.”
Dylan

Dylan’s grandma once told him to chew some gum to keep from yawning.

He’s testing to see if chewing gum affects the oxygen level in the blood.

He had no trouble finding volunteers for his study.

Kenny

And for his first science fair project, Kenny decided he really wanted to make a volcano.

So Mr. Rose helped him set up a test to see which kind of vinegar reacts most violently with baking soda.

Nats—“This is the easy part, cause once you get your data collected, then the hard part begins.....Yeah..... Trying to figure out, what does it mean?

Kyle and Weston

Most of the projects are done at home, and sometimes the parents have to help.

Kyle and Weston love to hunt with their dads.

They are using some instruments supplied by the school to test how firing a rifle affects the temperature and diameter of the gun barrel, as well as the speed and accuracy of the bullet.
Nats—“Ready. (SHOT) Give me a safety and hands off.”

Kyle and Weston

THEIR DADS ARE THERE TO MAKE SURE IT’S SAFE.

Ronnie Wheeler SOT

IN: I think, “In God we trust, all others bring data,” and these boys are out here taking measurements, getting data. They’re learning.

Kyle and Austin cover

(Wheeler voice)

IN: There’s no video game.
This is us out here, being real.

Dad helping

Nats—Dad helping (:06)

(Dad voice)

IN: It’s important that they feel that they’re in control, they have decisions, and they’re free to explore.

Kyle recording data

(Kyle voice)

IN: Well, I don’t think it’s going to be like we expected, like...

IN: I think it’s going to stay the same, and I don’t think it’s going to be much like we thought.

Kyle SOT

IN: “Do you still learn something?”
“Uh huh.”
“What do you learn?”
“We learn that….we’re not always right..”

Students collecting data

SOMETIMES IT’S HARD TO TELL WHAT YOU’RE LEARNING WHEN YOU’RE IN THE MIDDLE OF THE EXPERIMENT.
YOU’RE COLLECTING DATA, BUT WHAT DOES IT MEAN?

AS THE SCHOOL SCIENCE FAIR APPROACHES, YOU BEGIN TO REALIZE THAT SOMEONE IS GOING TO HAVE TO EXPLAIN THE PROJECT TO THE JUDGES, AND THAT SOMEONE IS YOU.

Mark in class

Nats—“I’ve had students come back and tell me...what did the judges say? And they said, Well they asked me an odd question and I said, What’s that? They asked me if I had any uncontrolled variables in the project.”

Nats—“But the judge asked them that and they told them, I didn’t think I had any, and I explained all the things that I did to control it, and they didn’t like that answer.”

(Mark voice)

Mark in hallway

In: We learned years ago from an opponent, a nice teacher from Little Rock Central came by after the awards at State,

(:09)

Mark SOT

In: and said, you know, your students do real nice work, but they don’t do one thing that they really need to do. And I said, What is that Ms. Dedman? And she said, they need to do data analysis, they need to use statistics to analyze their data. And I said, thank you. A year later we went back to State and won a whole bunch of stuff, because I studied up on the
proper statistics to use for particular types of research.

Classroom

Nats—“Calculating device out. I would like for you to calculate the standard error for the B Farm...”

Students working

In: If you are only looking at averages you have no way of telling what the effect of the uncontrolled variables are on the outcome. You can’t tell whether that average would work out that way next time or not. You have no way of evaluating the strength of your experimental design.

Mark in class

Nats—“So instead of saying, I think I had everything controlled, it’s a very good idea to say, No, I tried very hard to control everything, but there were some things, that were not controlled the way I would like for them to be.”

Alpena—shot of boards

Nats—“Students will be called out of class today to pick up their science fair boards.”

Roger’s class

Nats—Roger with students and boards

(Roger voice)

In: When we send the orders out for them to order the display boards, is when it really, for a bunch of them, starts becoming real.

(KM voice)

Haas Hall board work

Nats—“I have paper, paper cutter, scissors, glue, tape, you name it.”
KM showing board example

Nats—“Your title is usually in the center with your materials, and your methods, and your photographs, and your graphs.”

Various board work

OUR TEACHERS ALWAYS REMIND US-- IF YOU DON’T REALLY UNDERSTAND YOUR EXPERIMENT,

Nats—“Oh crap....”

YOU CAN’T HIDE BEHIND A BEAUTIFUL BOARD.

Board falls

Nats—“Oh no....”

Frank working on board

Nats—“As you can tell, I have reused this board a couple of times. And plus, it was actually my sister’s before, so it’s got her name on it.”

Nats—“It’s important because it’s kind of an eye-pleaser, and if everything looks really organized on the board, then the judges will think more highly of you...and more highly of your data.”

Nats—“I’m preparing for the actual day of science fair, so I’m starting to go over what I’m going to say, and have prepared what I need to say.”

TS in class

TS w students

Nats—“You would want to incorporate all of that into your presentation.”
In: Every year I like to give the students a chance to present in class, before the Science Fair, in front of me, so I can critique.

Student presents

Nats—“And I take the temperature of the light as a control group....”

In: It’s like a story and you have to tell it right, or the judges are not going to understand what you did.

Student answers question

Nats—“How many times did you test this? I recorded the temperature three times each and..... goodness gracious...laughter”

Becomes flustered

Mark in class

Nats—“You are going to be talking to someone who, most likely, does not know you.”

Mark in class

Nats—“Three things matter: what you look like, what you know, and what your board looks like.”

Basement with Alpena students carrying tables

Nats—Banging tables

Setting up tables

Nats—“Grab one and come this way..”

(Mark voice....on phone)

Nats—“Yeah, my name is Mark Welch and I’m the science teacher at Alpena High School. And we’re going to have our science fair tomorrow, and
we’re going to have to feed several judges, and I was needing to order about about 13 pizzas, and get them delivered up here if you could get me a deal on that.......okay, uh, we don’t deliver, though.....”

TS and Alma teachers working

Nats—“We just need to assign the judges....”

TS and Alma teachers working

(TS Voice)

In: It took all day with 3 of us working on it, to get the database set, and to get all the judges assigned, and to make all the labels, cards, and judging sheets, and clipboards, and on and on...

TS puts cards on table

In: Every student has a specific place. They have a project number, and they have to set their board up at that specific location.

WS TS with tables

In: Tomorrow we are expecting close to 300 projects set up for the fair.

Haas Hall classroom

(KM voice)

Nats—“So everyone stand up, grab your boards...”

Students file out

In: The science fair is tomorrow

In: and I’m nervous for the scholars. I want them to do really well, I want them to have fun.

Lucinda takes her place

Nats—“Chemistry, Lucinda Williams, right here....”
Sophie by her board

Nats—“You will stand by your board and you will have at least 2 to 3 judges, they may come in pairs, they may come individually, to talk to you. So you may give your speech, probably 2 or 3 times”

Lucinda and Javian

Pan to KM

Middle School kids carry boards to gym

Nats—Roger’s voice

In: “If a judge asks you a question you don’t know, say I don’t know. Don’t try to make something up.

In: Tell them the cool stuff. Tell them the stuff that didn’t work.

In: The hard part is over, you’ve got the project done. Now you just need to relax and think about what you did.

In: Tomorrow’s the day. We’ll see how it goes.

Roger with students

Fade to black

Street scene Alma w buses

Nats—buses

Bus passes reveals sign “Science Fair Today”

Inside TS at table

Nats—“OK. What category are you in?”

Several boards put into place

Frank and others....

Exterior Alpena school

Nats—“Set it up quick and get back to the library please.”
Setting up boards (various)

AT THE SCHOOL SCIENCE FAIR
WE COMPETE IN CATEGORIES
AGAINST OUR FRIENDS AND
CLASSMATES.

IT'S ALL NEW TO THE YOUNG
ONES, SO THEY'RE EXCITED.
SOME OF THE SENIOR HIGH
STUDENTS ARE JUST GLAD TO GET
IT DONE FOR THEIR GRADE.

BUT FOR THOSE WHO WANT TO
ADVANCE AND REPRESENT THEIR
SCHOOL AT THE REGIONAL SCIENCE
FAIR, IT STARTS HERE.

Mark at the set up

(Mark voice)
In: This is our scrimmage.
    This is where we pick out
    the talent.
In: I’m looking for one starter.
    The old coach comes out in
    me a little bit, but I’m looking
    for one starter in each category.
In: When I’m thinking that way,
    I’m thinking they are international
    type quality projects.

Mark talks to Alpena judges

Nats—“Thank you, first and foremost,
    for coming. We couldn’t do this
    without you guys.”
Nats—“Whatever grade level you are
    judging, it is extremely important.
    They’re really excited about
    talking to you, or maybe really
    nervous about talking to you, so
    the biggest thing that they are
    learning today in my mind is not
    the process of science, it’s interview
    skills that you are going to have to
    have to get a job sometime.”
TS talks to Alma judges

Nats—“Ask lots of questions. We want to make sure that they did the experiment. We don’t want any made up data, so I want you to actually make sure that they did it. Give feedback. Cause we want them to improve their project if they are moving on, we want them to improve it and get that better.”

TS talks to judges

Nats—“Oh, let me tell you that grades are not tied to judging scores, so don’t worry about that.

Nats—“You can be honest. It’s not going to affect their grade any.”

Haas Hall KM talking to students

Nats—“Okay keep the noise down, you may talk quietly, but I’m going to bring the judges in.”

Sophie talks to judge

Nats—“Hi….my name’s Chris. My name’s Sophie. Nice to meet you. This is my project....”

(KM voice)

In: It’s something they can feel proud of, and that they’ve worked very hard on, and it’s theirs.”

Nats—“I found that...I thought that the newspaper in the earthworm soil was going to decompose quickest, but it didn’t.”

(KM voice)

In: They want to talk about it, they want to present, they want to tell you what they found out.

Lucinda w judge

Nats—“I took 10 different fabric types....”
Javian w judge

Nats—“Gamma rays are wavelengths. They are the most dangerous form of radiation.”

Zane w judge

Nats—“But it makes sense to me that there are more plant nematodes in the littered because if you put litter on, there’s going to be more grass growing there, so generally there’s going to be more plant nematodes because there’s going to be more vegetation there.”

Bethany w judge

Nats—“Here’s week two. This is the control group. Much higher than the others and this is showing the standard error which is calculated with the variance divided by the observations and taking the square root.”

Taylor w judge

Nats—“Primary care doctors, they’ve taken out all latex. They are only nitrile. And your orthodontists and your dentists, they are only nitrile. So if latex is the best yes, but if so many people have allergies to nitrile, well, nitrile grew.”

Frank w judge

Nats—“I really kind of expected the electromagnetic field to be way up here, with way more cells....Sure....or way down here because it killed all the cells. And so to see the control beat it, and it be in between the magnetic field and the control....that was interesting.”
Judging
Charles Bourland w student

Nats—“It still needs refinement, just a suggestion…”
(Bourland voice)

In: You have a lot of power when you’re judging one of these. And so what you say can really turn someone’s life around for the good, however you use it.

Nats—“There’s something called a mass spectrometer that will actually separate on an atomic scale all the atoms and test the percentages of each atom…. That’s really cool.”

Bourland SOT w super

In: Do I think it is good that it is so competitive? I think it is good for the most part, I think it really depends on the person though.

Students with judges

Nats—talking to judge

(Bourland voice)

In: Someone who might not have the best GPA, might do very well in the science fair.

Nats—Student—“I had problems though, sometimes…”

In: It exposes them to new things and can help draw them out of their shell.

Nats—Student—“And finally the 3rd time it worked.”

Sign on door “Judging Room”
Bourland with judges

Nats—“I was actually kind of impressed with the way that she measured flammability…I was like, hey, that’s actually an interesting way to measure it.”
And for the future she wanted to map out a grid....”

Bourland cu

In: I participated in at least 2 science fairs that I know of.
In: At the time I really didn’t grasp why I was doing it.
In: I didn’t understand the communication skills that were being developed at that point.

Bourland SOT

And looking back on it I see that that really has helped me become the person who I am today, and helped me be as successful as I have been in an electrical engineering degree.

Shots of judges adding scores
Various Alma/Alpena
Ribbons marked

Nats of judges conferring

Mark w tabulator

Nats—“Mathematical Science, here’s your first. That’s well-deserved. Your second, and your third. OK.”

Ribbons on board

ONCE THE SCORES ARE TABULATED, EACH SCHOOL HAS ITS OWN WAY OF ANNOUNCING THE WINNERS.

Alma principal on intercom

Nats—“Congratulations to the following students...”

ALMA STUDENTS HEAR THEIR NAMES CALLED OUT BY THE PRINCIPAL ON THE SCHOOL’S INTERCOM, THE SAME DAY AS THE FAIR.

Nats—“Again, students in science fair, you need to take your boards down at this time.”
KM in Haas Hall class

Nats—“Now the chemistry department... we had one winner, and that is Lucinda Williams....”

HAAS HALL STUDENTS
WAIT UNTIL THE NEXT DAY
FOR THE WINNER’S NAMES
TO BE REVEALED IN CLASS.

Nats—“Javian Walters, ‘The level of radiation in commonly used devices,’ way to go.”

Alpena Award Assembly

AT ALPENA, WE HAVE AN AWARDS ASSEMBLY, AND IT’S A PRETTY BIG DEAL.

THE WHOLE SCHOOL IS THERE, PLUS A LOT OF PARENTS.

Mark talks to crowd

Nats—“It takes a lot, to make this thing go...”

MR. WELCH THANKS ALL THE COMMUNITY SPONSORS FOR HELPING WITH OUR EXPENSES, AND HANDS OUT AWARDS FOR THE DIFFERENT CATEGORIES, AND FOR THE BEST OVERALL PROJECTS.

Mark at podium

Nats—“Bethany Young, first place overall....”

WINNING AN AWARD AT THE SCHOOL FAIR IS NICE, BUT THE IMPORTANT THING IS TO PLACE IN YOUR CATEGORY, AND MOVE ON TO THE REGIONAL SCIENCE FAIR. THAT’S A WHOLE NEW BALLGAME.
Mark to crowd

Nats—“We’re the smallest school when we go to any of these competitions. There’s not anyone there any smaller in number. But there’s no one there any larger in heart and effort.”

Mark with students

Nats—“We need to be really sharp…”

Frank working on experiment

WE’LL BE COMPETING AGAINST STUDENTS FROM OTHER SCHOOLS, AND THEY ONLY SEND THEIR BEST PROJECTS.

(Frank voice)

In: The judges are very helpful at school fair, and so they told me some different things to work on my project and so that’s what I’ve been adding to it
In: and overall it will hopefully make my project stronger.

Nats—“So the bus is leaving at...6:30.”

In: We really want to beat Alpena. That’s our goal. (:30)

Tiffany SOT

In: We are extremely competitive. We like to win. When we go to regionals we always like that rivalry against Alpena and Haas Hall and (:12)
In: it wouldn’t be as fun if we didn’t have the competition there. (:04)
Alpena school sign

AT ALPENA, A LOT OF
THE SCHOOL’S PRIDE
COMES FROM OUR SUCCESS
AT THE REGIONAL SCIENCE FAIR,
AND BEYOND.

Posters

OUR CLASSROOMS
HAVE BIG POSTERS OF
FORMER STUDENTS WHO
MADE IT TO THE INTERNATIONAL
SCIENCE AND ENGINEER FAIR,

Maps

WITH MAPS SHOWING THE
COOL PLACES THEY GOT TO VISIT.

Hallway

THE HALLWAY IS LINED WITH
AWARDS, AND SHADOW BOXES
FULL OF MEMORIES FROM PAST
TRIPS TO THE INTERNATIONAL FAIR.

Mark SOT

In: It’s just to make it real to them.
Tradition, yes, but more to
convince them that it was
something that was attainable.

Hallway

In: You know, it gets commonplace,
because I walk down this hallway
like 3 or 4 times a day. If you
stop and think about it,
it’s so impressive to think,
it’s not just kids that are in,
like GT and in AP classes,
it’s everyone....
it’s really cool that it kind of draws
us all together.

Olivia SOT

WS Alpena Gym

Mark talking to Alpena team

Nats—“Eighteen years we’ve been
making this trip.
Some of you guys are going for
the first time.
We’ve come back from this trip,
and others, with awards 1,375
You need to believe in yourself. You have not earned this by accident. You’ve earned it by hard work.”

Alpena buses arriving

THE DAY OF THE REGIONAL SCIENCE FAIR STARTS EARLY FOR ALPENA STUDENTS.

Inside bus shots

(Justin voice)
In: I’ve never seen a school that just loads up on a bus and is pumped to go to a science fair, but...
In: The people that go, you know, want to go.

Girls on bus

Nats—“We’re excited...This is like my third year here, so....”

Mark driving

(Mark voice)
In: We have nervous kids. We’ve got a little nervous in our stomach, too. We load up the buses and catch a ride for an hour and a half, and then we get to unload. And it’s just a blur until the awards ceremony.

Unloading projects into Union

Nats sound w music

Alma buses arrive

THE ALMA STUDENTS ARRIVE IN STYLE, BUT THEIR BUSES ARE TOO BIG TO PARK CLOSE. THEY HAVE TO CARRY THEIR PROJECTS UP THE HILL.

Carrying projects

Haas Hall students with KM

Nats—“Go around and look for that room and someone will help you.”
HAAS HALL ACADEMY
IS IN FAYETTEVILLE, SO THEY
COME INDIVIDUALLY
AND JOIN THE
ORGANIZED CHAOS.

Students coming in

Nats—“Stick together and
rock and roll...”

(KM Voice)

In: They’ve got their boards,
some have their parents.
They’re dressed up. They
are meeting in the University
of Arkansas student union.
They’re everywhere.

Mark with students

Nats—“You guys have done a nice job,
turn it loose here in a minute.”

TS passing out forms

Nats—“Ok. Caleb Fritz....”

(TS Voice)

In: Once we have all the
packets and where they are
going to be judged, then we
send them off to the ballroom
to set up their projects. And
that’s when we, as teachers,
go around to each and every
student, making sure that they
have everything that they need...
give them a pep talk and tell them
they are going to do great.

TS talking to student

Nats—“I forgot everything. You can do this.
I’m just joking. We’ve got this.”

Students w boards

(KM voice)

in: We’re all waiting for that 9 o’clock
time when they are set up, they’re
standing by their board, and the
door’s shut.
Nats—“Taylor, I’m Devin…”

“I’m from Alpena. My name is Brandon.”

“So what did you learn from the project…”

“Do you know what the P-Value means…?”

“And the acid rain actually had a much higher plant growth…”

“Would anything have changed? Probably.”

“When you took the control cells, was the amount of growth media and the number of cells the same? I’m sorry I missed it…”

“Devices…(cell phone rings) Excuse me. I am so, so sorry….We’re not getting radiation now are we? No...you’re fine.”

“Is 2.2 better than 2.3, or the other way around?.....pause.....I’m sorry, I’m picking on you. Nice meeting you. Nice explaining this.”

WS Hall to empty hall

THE JUDGING LASTS ALL MORNING UNTIL THE FINAL PROJECT IS EVALUATED.

MARK WITH BETHANY

WHILE THE SCORES ARE TABULATED, WE TALK TO OUR TEACHERS ABOUT HOW WE THINK WE DID.

Nats—“Course they asked me some questions and I was like...I can’t answer that cause I don’t know.”
AND WAIT FOR THE ROOM TO BE FLIPPED FOR THE AWARDS CEREMONY.

Nats...crowd...Shhhhh....

(Mark voice)
In: You already kind of know what some of the kids feel like coming out of judging. So you already hurt a little bit for some. You hope for others.

In: Child works 12 to 14 weeks on something, you’re rooting for them pretty hard.

Nats—“Middle division, overall school....”

THEY ALWAYS BEGIN WITH THE YOUNGEST.

Nats—“Alpena Middle School...cheers”

AS EXPECTED, MR. ROSE’S ALPENA STUDENTS WIN A LOT OF AWARDS, INCLUDING THE TROPHY FOR BEST OVERALL MIDDLE SCHOOL.

Nats—“Junior Division overall....Haas Hall..cheers.”

(KM voice)
In: I wanted it for my kids. I knew they had done good science.
In: I mean you have your thoughts and ideas about how you think it is going to play out, but in all reality it is a surprise. And when you see their faces when their name is called, it’s just amazing.
THE TENSION IN THE ROOM SEEMS TO RISE WHEN THE SENIOR HIGH AWARDS ARE ANNOUNCED.

THREE OF US WILL BE CHOSEN TO REPRESENT THE REGION AT THE INTERNATIONAL SCIENCE AND ENGINEERING FAIR.

YOU HAVE TO WIN YOUR CATEGORY HERE TO BE ELIGIBLE. FROM THE ALPENA SIDE OF THE ROOM, IT SEEMS LIKE ALMA IS DOING PRETTY GOOD.

Nats—“Cole Balkman….cheers.”

(TS voice)

In: I know who has put in the work and deserves the recognition. It doesn’t always turn out that way.

In: Different outcomes can happen at the different levels of fairs.

Nats—“The second place overall winner, is Caleb Fritz…..cheering.”

(TS voice)

Audience applause

In: So when they called 2 of our kids to actually go to Internationals, we were ecstatic.

AND SO WE’RE DOWN TO THE LAST SLOT FOR INTERNATIONAL. IS IT POSSIBLE THAT ALPENA COULD BE SHUT OUT THIS YEAR? TIME STANDS STILL BEFORE THEY CALL OUT THE THIRD NAME.

Nats—“Alpena High School…..Brandon Criner…cheering…”

I CANNOT BELIEVE IT. IT’S ME. BRANDON CRINER, SOPHOMORE, ALPENA HIGH SCHOOL.
Brandon on stage.....
I AM GOING TO THE
INTERNATIONAL SCIENCE AND
ENGINEERING FAIR.

I’M SO HAPPY.
FOR MYSELF,
AND EVERYONE AT MY SCHOOL,
ESPECIALLY MR. WELCH.

(Mark voice)
In: When you see a child....
and they’re smiling on the stage,
where they just won an award at
a regional or state event, maybe
got to go to ISEF or something
like that, and they really didn’t think
that was possible, but now they
realize that it is, and they feel a whole
different way about themselves.
In: That’s payday right there.

WS audience settles
AS EXCITED AS I AM,
I REALIZE......
THEY ALWAYS SAVE THE MOST IMPORTANT
AWARD FOR LAST—
THE TROPHY FOR THE BEST OVERALL
HIGH SCHOOL.....

Alpena students react to win
Nats—“In the senior division overall school.....
Alpena High School....cheering...”

Cut to empty awards hallway
at Alpena High School
Nats—applause fades

Fade to black

Post script graphic:

Dedicated to the
parents, volunteer judges,
and teachers who make it possible
for students to learn science
by doing it.

Credits
Music